REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

I. Status of the claims

Claims 2-6, 9, 10, 14, 15, 20-33, 35, 36, 38-44, 48 and 49 are cancelled. Claims 1, 7, 8, 11-13, 16-19, 34, 37, and 45-47 are amended. Claim 1 is amended to recite an "injectable formulation," and conforming amendments are made to the dependent claims. Claims 7, 19, 37 and 47 are further amended to address the §112 rejections. Claims 34, 37, and 45-47 are amended to recite specific embodiments. Support for the claim amendments may be found in the original claims, including claim 1, and the specification at, for example, paragraphs [0053] to [0057]. None of the foregoing amendments introduce new matter. The foregoing amendments are made without prejudice or disclaimer, solely to advance prosecution, and not in acquiescence to any rejection. The right to pursue any cancelled subject matter in a continuing application is expressly reserved.

Applicant respectfully requests entry of the amendments after final because they are not believed to require any additional search, directly address issues raised in the final Office Action, and are believed to place the application in condition for allowance, or at the very least, in better condition for appeal.

Following entry of these amendments, claims 1, 7, 8, 11-13, 16-19, 34, 36, 37, and 45-47 will be pending, of which claims 1, 34, and 45-47 are independent. These claims are presented for reconsideration.

II. Information Disclosure

Applicant has previously made of record co-pending applications 11/898,470 and 11/979,265, both of which are being examined by Examiner Deberry, as is this application. Applicant respectfully requests that the Office Actions issued in the co-pending applications be considered in the context of the instant application, including the Office Actions mailed August 26, 2008, and December 22, 2008, in 11/898,470, and the Office Action mailed February 13, 2009, in 11/979,265.

III. Rejections under 35 U.S.C. § 112, second paragraph

At pages 3-4 and 5-7 of the Office Action, claims 7, 19, 20, 36 and 48 are alleged to be indefinite. The rejection of claims 20, 36 and 48 is rendered moot by the cancellation of those claims. The amendment to claim 7 removes the embodiment alleged to lack antecedent basis in claim 1. Claim 19 is amended to replace "ratio," which is rejected, with "amount," which the Examiner agrees is supported by the specification.[1] Applicant therefore believes that all rejections under 35 U.S.C. § 112, second paragraph, are rendered moot or overcome, and therefore requests withdrawal of these rejections.

IV. Rejections under 35 U.S.C. § 112, first paragraph (written description)

At pages 4-5 and 7-9 of the Office Action, claims 37, 44, 45 and 47 are rejected for alleged incorporation of new matter. The cancellation of claim 44 renders moot the rejection of that claim. Claim 37 is amended to replace "means" with "syringe," and claims 45 and 47 are amended to replace "1.0 μg" with "0.1 μg". By these amendments, the claims now accord with that which the Examiner considers supported by the specification. Applicant therefore believes that all rejections under 35 U.S.C. § 112, first paragraph, are overcome and requests withdrawal of these rejections.

V. Rejections under 35 U.S.C. § 102

A. The claimed invention

Applicant has found that the combination of a specific amount of FSH and a specific amount of hCG is particularly effective for treating infertility. Claims 1, 7, 8, 11-13, and 16-19 recite injectable formulations consisting essentially of FSH and hCG in a pharmaceutically acceptable carrier, having specific amounts of FSH and hCG. Claims 34, 37, 45, 46 and 47 recite products comprising a first pharmaceutical composition comprising recombinant FSH and a second pharmaceutical composition comprising recombinant hCG, wherein the

[1] Applicant's representative respectfully objects to the insinuation that she has taken inconsistent positions in the prosecution of co-pending applications with regard to the recitation of "amounts" versus "ratios." The teachings in the specification support both the concept of compositions comprising different, specific amounts of FSH and hCG and the concept of compositions comprising different ratios of FSH and hCG.

compositions have recited amounts of recombinant FSH and/or recombinant hCG. Such products are not taught or suggest by the cited references.

B. Filicori

At pages 9-10 of the Office Action, claims 1, 11-16, 19, 20, 34, 36, 44, 46, 48 and 49 are alleged to be anticipated by Filicori *et al.*, "Low-dose human chorionic gonadotropin therapy can improve sensitivity to exogenous follicle-stimulating hormone in patients with secondary amenorrhea," *Fertility and Sterility* 72 (6): 1118-1120 (1999) ("Filicori"). Applicant respectfully traverses the rejection to the extent it may be applied to the pending claims.

As an initial matter, Applicant notes that claims 14, 15, 20, 44, 48 and 49 are cancelled, rendering moot their rejection.

Claim 1 recites injectable formulations comprising a ***single composition*** consisting essentially of specific amounts of FSH and hCG, in a pharmaceutically acceptable carrier. Filicori does not teach or suggest such a composition. For example, Filicori does not disclose the use of a ***single composition*** comprising ***both*** FSH and hCG in specific amounts, as claimed. Claim 1 therefore is not anticipated by Filicori. Because claims 11-13, 16 and 19 depend from claim 1, these claims are also not anticipated by Filicori.

In regard to claims 34, 36, 44, and 46, Applicant notes that Filicori discloses the use of Metrodin (urinary FSH) and Profasi (urinary hCG), which are ***separate*** products, provided separately, and not as a single product, as claimed. Filicori does not teach a single product comprising both an FSH composition and an hCG composition. Further, the FSH and hCG used in Filicori are urinary-derived products, as reflected in their measurement in International Units, not by weight. In contrast, claims 34, 36, 44 and 46 recite recombinant FSH and/or hCG. Because Filicori fails to disclose several aspects of claims 34, 36, 44, and 46, these claims are novel over Filicori.

C. Thompson

At page 10 of the Office Action, claims 1, 11, 13-16, 19, 20 and 49 are alleged to be anticipated by Thompson *et al.*, "Gonadotropin requirements of the developing follicle," *Fertility and Sterility* 63 (2): 273-276 (1995) ("Thompson"). Applicant respectfully traverses the rejection to the extent it may be applied to the pending claims.

As an initial matter, Applicant notes that claims 14, 15, 20, 44, 48 and 49 are cancelled, rendering moot their rejection.

In regard to claims 1, 11, 13, 16 and 19, Applicant respectfully points out that, like Filicori, Thompson does not teach a ***single composition*** of ***both*** FSH and hCG, as recited in claim 1. For example, at page 274, col. 2, Thomson distinguishes between "IM" (intramuscular) administration of FSH and "SC" (subcutaneous) administration of hCG. Clearly, this requires the use of separate compositions suitable for a different route of administration, and administered separately. Claims 1, 11, 13, 16 and 19 are therefore not anticipated by Thompson.

D. Menezo

At page 11 of the Office Action, claims 1, 7, 8, 11, 13, 16, 19 and 49 are alleged to be anticipated by Menezo, WO 03/022303 ("Menezo"). Applicant respectfully traverses the rejection to the extent it may be applied to the pending claims.

As an initial matter, Applicant notes that claim 49 is cancelled, rendering moot its rejection.

As to claims 1, 7, 8, 11, 13, 16 and 19, Applicant notes that, like Filicori and Thompson, Menezo does not disclose a ***single pharmaceutical composition*** of ***both*** FSH and hCG, in specified amounts, as recited in the claims at issue. Quite to the contrary, Menezo teaches that FSH and hCG are administered at different time points (often indeed on different days), and according to different administration regimes, and so would not be combined together. Thus, Menezo simply cannot anticipate claims 1, 7, 8, 11, 13, 16 and 19.

E. Skrabanja

At page 12 of the Office Action, it is alleged that claim 45 is anticipated by Skrabanja *et al.* U.S. Patent No. 5,929,028. Applicant respectfully traverses.

Skrabanja discloses stable formulations of known active ingredients, and methods of making them. Fatal to the anticipation rejection is the fact that Skrabanja does not disclose a single product comprising a first pharmaceutical composition comprising recombinant FSH and a second pharmaceutical composition comprising recombinant hCG, wherein the compositions have the amounts of FSH and/or hCG recited in claim 45. Indeed, Skrabanja does not describe any specific formulations comprising specific amounts of active agents, let alone any specific formulations useful for the treatment of infertility, or any product comprising two different compositions. Although Skrabanja mentions that FSH and hCG can be "dissolved together," Skrabanja, column 6, lines 42 to 46, this teaching does not relate to claim 45, which recites a single product comprising two different pharmaceutical compositions. Claim 45 therefore is not anticipated by Skrabanja.

F. Summary

As shown above, none of the cited references discloses a single composition comprising the amounts of FSH and hCG recited in independent claim 1, and none discloses a product comprising first and second pharmaceutical compositions comprising FSH and hCG, respectively, wherein the amount of FSH and/or hCG is as recited in independent claims 34, or 45-47. Thus, the anticipation rejections are improper as applied to the pending claims, and should be reconsidered and withdrawn.

VI. Rejections under 35 U.S.C. § 103

A. Claims 17, 18 and 20 in view of Menezo and Skrabanja

At pages 12-14 of the Office Action it is alleged that claims 17, 18 and 20 are rendered obvious by the combination of Menezo and Skrabanja. Applicant respectfully traverses the rejection to the extent it may be applied to the pending claims.

As an initial matter, Applicant notes that claim 20 is cancelled, rendering moot its rejection.

Claims 17 and 18 depend from claim 16, which depends from claim 1. As shown above, Menezo does not disclose or suggest an injectable formulation comprising a single pharmaceutical composition of both FSH and hCG, let alone a single composition comprising FSH and hCG in the specific amounts recited in claim 1. Indeed, Menezo describes administering FSH and hCG at different time points, often on different days, and according to different administration regimes, thereby requiring separate compositions. For example, the kits defined in claim 31 of Menezo include separate and different doses of FSH and hCG and different numbers of doses of FSH and hCG. Menezo reveals no contemplation that FSH and hCG should be administered in the same preparation and, to the contrary, teaches away from that aspect of the present invention by teaching administration schedules that require the FSH and hCG to be provided and administered separately.

The rejection cites Skrabanja for teaching liquid forms of FSH and hCG, various doses of FSH and hCG, and a combination of FSH and hCG dissolved together. However, Skrabanja does not teach or suggest a composition with the specific amounts of FSH and hCG recited in the pending claims. Skrabanja only discloses broad ranges of doses of each hormone, without any guidance that would lead the skilled artisan to the recited amounts. Skrabanja's broad teaching is insufficient to establish obviousness of the specific amounts recited in the instant claims. *See* MPEP § 2144.08.

Combining Menezo with Skrabanja also fails to suggest the present invention. Although Skrabanja indicates that FSH and hCG can be provided in a single composition, Menezo provides no reason for making a single preparation comprising both FSH and hCG in the same composition, let alone in the recited amounts. To the contrary, as discussed above, Menezo discloses specific dosing regimens wherein FSH and hCG are administered at different times, including at different times that are several days apart. Thus, even the skilled artisan aware of both Menezo and Skrabanja would not have a reason to make a composition as claimed, because they would not find any reason in these references to prepare a single composition comprising FSH and hCG in the specific amounts recited in the claims.

Although *KSR* may have broadened the basis for an obviousness rejection, it did not eliminate the requirement for a ***reason*** to modify the cited references as would be required to arrive at the claimed invention. *See Takeda Chem. Industs., Ltd. v. Alphapharm Pty, Ltd.*, 492 F.3d 1356 (2007). Merely because aspects of references ***can*** be combined in order to achieve a claimed invention does not render the invention obvious.

Applicant also emphasizes that the claimed compositions achieve results that are unexpected in view of Menezo and Skrabanja. In particular, the claimed compositions are specifically designed to achieve ovulation induction without ovarian hyperstimulation. "According to the invention, the ratio of FSH to hCG in such a composition is conducive, upon administration of the composition, to folliculogenesis and to follicular maturation without ovarian hyperstimulation." Specification, paragraph [0020]; *see also* paragraph [0021]. In contrast, Menezo is specifically directed to methods for controlled ovarian hyperstimulation (COH), *see* Title. At page 2, paragraph 2, Menezo states that, "[a]s is well known and recognized in the art, techniques or methods of ovulation induction (OI) are distinct from methods of COH, although both may involve the administration of FSH." Thus, the skilled artisan would not expect from Menezo (or Skrabanja) that a composition as claimed could achieve ovulation induction without ovarian hyperstimulation.

The Supreme Court in *KSR* confirmed the significance of unexpected results to an obviousness analysis, noting that a combination that "does no more than yield ***predictable*** results" is indicative of obviousness. *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1739 (2007) (emphasis added). Where, as here, the claimed invention yields ***unpredictable*** results, the obviousness rejection is not proper under *KSR*.

In summary, the cited combination of references does not suggest the claimed compositions. Thus, Applicant respectfully requests reconsideration and withdrawal of the § 103 rejection.

B. Claim 47 in view of Filicori and Skrabanja

At pages 14-15 of the Office Action, claim 47 is asserted to be obvious in view of the combination of Filicori and Skrabanja. Applicant respectfully traverses.

The combination of Filicori and Skrabanja does not suggest a single product comprising a first pharmaceutical composition comprising recombinant FSH and a second pharmaceutical composition comprising recombinant hCG, wherein the compositions have the amounts of recombinant FSH and recombinant hCG recited in claim 47. For example, Filicori describes a case where FSH and hCG were administered separately, according to different schedules and different routes of administration, over different time periods. Filicori provides no reason to provide separate FSH and hCG compositions together in a single product. Indeed, given that FSH was administered subcutaneously over many days, while hCG was administered in a single intramuscular injection, the skilled artisan reading Filicori would have no reason to combine an FSH and an hCG composition in a single product. Likewise, Skrabanja provides no reason to make such a product. Skrabanja discloses separate FSH and hCG compositions, and notes that FSH and hCG can be provided in a single composition, but does not provide any suggestion, motivation, or reason to make a single product comprising a first pharmaceutical composition comprising recombinant FSH and a second pharmaceutical composition comprising recombinant hCG, let alone a product where the compositions have the amounts of recombinant FSH and recombinant hCG recited in claim 47. The combination of Filicori and Skrabanja does not overcome the deficiencies of each reference alone, as the combination still fails to provide any suggestion to make a product as claimed. Accordingly, the combination of Filicori and Skrabanja does not even make out a *prima facie* case of obviousness of claim 47.

C. Summary

The cited references, read alone or in combination, fail to suggest a single composition comprising the amounts of FSH and hCG recited claims 17 and 18, and also fail to suggest a product comprising first and second pharmaceutical compositions comprising FSH and hCG, respectively, wherein the amounts of FSH and hCG are as recited in

independent claim 47. Thus, the obviousness rejections are improper as applied to the pending claims, and should be reconsidered and withdrawn.

VII. Obviousness-type double patenting

At pages 15-16 of the Office Action, claims 1, 7, 8, and 11-20 are provisionally rejected over claims 1-16 of co-pending Application No. 11/898,470, and claims 1, 7, 8, 11, 13 and 49 are provisionally rejected over claim 1 of co-pending Application No. 11/979,265. Applicant respectfully requests that the Examiner hold these rejections in abeyance, pending identification of otherwise allowable subject matter.

CONCLUSION

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date July 28, 2009 By _____

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